

REMARKS

The Advisory Action mailed July 9, 2004 indicated that Applicants Response after Final was not entered. Applicant respectfully requests reconsideration of this application. Claims 16-44 are pending. Claims 16-44 are rejected.

Applicant respectfully notes that in the Final Office Action mailed on April 9, 2004, interpretations or characterizations by the Examiner include inferences and/or potential limitations, to which Applicant does not wholly agree. Therefore, Applicant reserves future rights to dispute any portion or all of said interpretations or characterizations.

35 USC § 103 Rejections

The Final Office Action mailed on April 9, 2004, rejects claims 16-20, 25-32 and 35-42 under 35 USC 103 as allegedly being unpatentable over US Patent 5,859,789 (Sidwell) in view of Visual Instruction Set (VIS TM) User's Guide, Sun Microsystems, March 1997 (Sun). Applicant notes that former rejections of claims 21-24, 33-34 and 43-44 under 35 USC 103 over Sidwell in view of Sun have been withdrawn.

With regard to Claims 16 and 35, the Final Office Action says, in pointing out that Sidwell's system could not perform Sun's packed sum of absolute differences without modifications (for example, to control unit 16 and packed arithmetic unit 6 to permit a third source operand for a packed arithmetic instruction), Applicant provides some evidence of obviousness. Applicant believes that whether or not Applicant can point out any or all modifications necessary to combine the cited references is not material to the argument. Applicant respectfully submits that no suggestion for such modifications is provided by Sidwell.

Accordingly, Claims 16 and 35 would not be obvious in view of the cited references. Therefore, Applicant respectfully requests the Examiner withdraw the rejections of Claims 16 and 35 under 35 USC § 103.

With regard to Claims 17 and 26, the Final Office Action insinuates that it would have been obvious to make use of one or more additional implicit operands, citing an example of the IMUL instruction of the PENTIUM® microprocessor instruction set, in order for the combined system of Sidwell and Sun to perform Sun's packed sum of

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absolute differences, compatible with the PENTIUM microprocessor instruction set. Applicant respectfully submits that since no third reference having an IMUL instruction was relied upon, to make such a rejection is improper. Therefore, Applicant requests the Examiner withdraw the rejections of Claims 17 and 26 under 35 USC § 103.

With regard to Claims 18, 30 and 39, the Final Office Action states that a packed subtract and write carry operation, a packed absolute value and read carry operation are inherently present in Sun's system. Applicant respectfully disagrees.

Further, Sidwell teaches away from storing carry state to make a packed absolute value and read carry operation dependant on a packed subtract and write carry operation, saying that "The execution units 2, 4, 6 do not hold any state between instructions. Thus subsequent instructions are independent." (col. 4, lines 36-38) Therefore, even if storing carry state is inherently present in Sun's system, it would not be obvious to combine the system of Sidwell with the system of Sun to perform the operations as set forth by Claims 18, 30 and 39.

Accordingly, Applicant respectfully requests the Examiner withdraw the rejections of Claims 18, 30 and 39 under 35 USC § 103.

The Final Office Action maintains a rejection of claims 21-24, 33-34 and 43-44 under 35 USC 103 as allegedly being unpatentable over Sidwell in view of Sun and further in view of US Patent 5,721,697 (Lee). However, the Examiner does not provide any reasons for disregarding the arguments of Applicants response filed January 20, 2004. In particular, Applicant respectfully disagrees with the Examiner's characterization of what Lee taught.

For example, Claims 21, 33 and 43, set forth a plurality of partial product selectors to insert an element of a plurality of elements of a packed data into and substituting for bit positions of one or more partial products and add the plurality of elements together.

On the other hand, Lee's method generates control inputs to force to logic zero bit positions that do not correspond to the bit positions of an element to be added. For example, forty-eight (48) bit positions are forced to logic zero in order to sum four 4-bit numbers (Table 6; cols. 6, lines 9-61). In order to sum eight 8-bit numbers, Lee would generate four hundred and forty-eight (448) control inputs to force to logic zero bit

positions that do not correspond to the bit positions of the elements to be added together (Figure 3; col. 4, lines 11-52 and col. 5, lines 1-10).

Further, Lee aligns data from one input in partial products through use of another input value. Each bit of the second input value is set to zero except for a first subset of bits, starting with the low order bit which are set to one at intervals equal to a bit length of each addend (col. 1 lines 47-55). The `vis_pdist()` instruction of Sun already has three source operands, one of which is also the destination (p. 88, first paragraph). To perform the alignment in partial products as suggested by Lee a fourth source operand would be necessary. Sidwell's system provides no third path for source inputs to packed arithmetic unit 6, much less a fourth (Figs. 1, 2, 4, and 6; col. 5, line 15 through col. 7, line 53). Therefore Sidwell's system could not perform the alignment in partial products as disclosed by Lee for Sun's `vis_pdist()` instruction without substantial modification to the method or apparatus disclosed, and such modification, was not taught, suggested, or motivated by Lee or by Sidwell.

Accordingly in light of the above arguments, Claims 21, 33 and 43, would not be obvious in view of the cited references. Applicant respectfully requests the Examiner withdraw the rejections of Claims 21, 33 and 43, under 35 USC § 103.

Applicant therefore believes Claims 16, 26 and 39 are patently distinguished over the art cited by the Examiner. In addition to the arguments presented above, Applicant respectfully submits that Claims 17-25, 27-38, and 40-44 are also patentable, at least by way of being dependent from an allowable independent claim.

35 USC § 112 Second Paragraph Rejections

The Final Office Action rejects claims 17, 21-24, and 26-38 under 35 USC § 112 as allegedly being indefinite for containing the trademark, "PENTUIM."

Claims 17 and 26 of the present application set forth, respectively, a decode unit to decode and a processor to execute instructions of the PENTIUM microprocessor instruction set.

The Examiner quotes from MPEP 2173.05(u) suggesting that the use of the trademark in claims 17, 21-24, and 26-38 is improper. Applicant respectfully submits

that the trademark, PENTIUM, is not being used as descriptive of a material or product. Rather what is set forth is, the "instructions of a PENTIUM microprocessor instruction set," which is descriptive of the source of a microprocessor instruction set. The presence of a trademark or trade name in a claim is not improper under 35 USC § 112, second paragraph, if its presence in the claim does not cause confusion as to the scope of the claim.

The Examiner states that the trademark, PENTIUM, "merely indicates that the source of the processor is the Intel Corporation." It will be appreciated that the trademark, PENTIUM, may be used in specific combinations with other trademarks to specify a family of instruction-set compatible processors having various features and/or technologies associated with those other trademarks.

If the trademark has a fixed and definite meaning, it constitutes sufficient identification (MPEP 608.01(v), par. 6). Applicant believes that the phrase, "instructions of the PENTIUM microprocessor instruction set," has a fixed and definite meaning, and would apprise one skilled in the art of each of claims 17 and 26's respective scope. Applicant respectfully submits as evidence of the above conclusion an accompanying declaration and attached exhibits under 37 CFR §1.132.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of Claim 17 and 26 (and of Claims 26-32) under 35 USC § 112.

With regard to Claims 21 and 33, Applicant intends that Claims 21 and 33 set forth producing a first plurality of partial products in a multiplier having a plurality of partial product selectors in performing the first operation of the first set of operations initiated responsive to decoding the packed sum of absolute differences instruction. Applicant has not made a typographical error in Claims 21 and 33. Claims 21 and 33, define the intended subject matter with a reasonable degree of precision and particularity.

The Advisory Action mailed July 9, 2004 indicates that the above statement is sufficient to overcome the rejection of Claims 21 and 33. Therefore, Applicant requests that the Examiner withdraw the rejection of Claims 21 and 33 (and of Claims 22-24 and 34-38) under 35 USC § 112.

CONCLUSION


Applicant respectfully submits the present application is in condition for allowance and such action is earnestly solicited. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Lawrence Mennemeier at (408) 765-2194.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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